

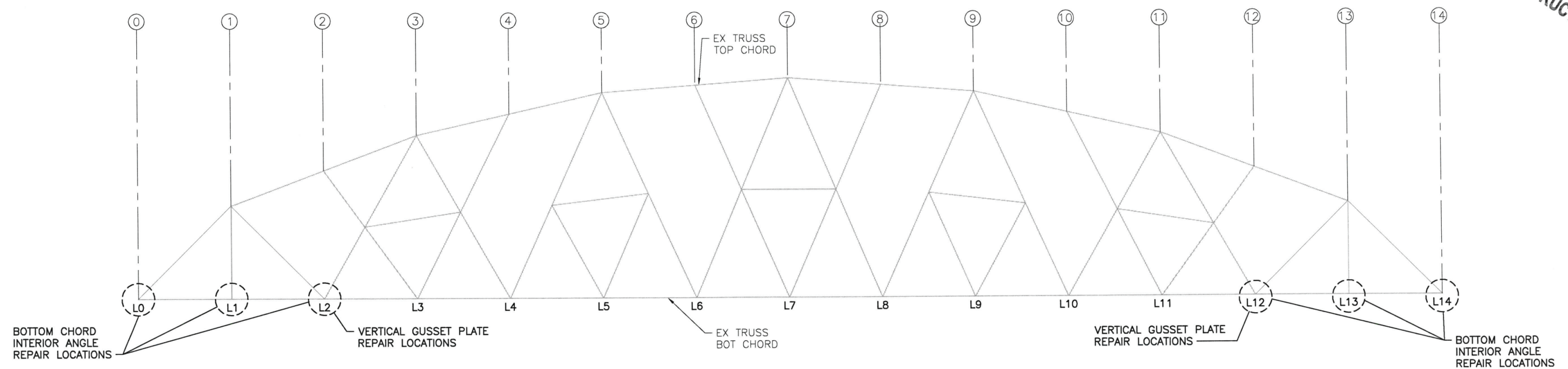
NOTE:  
NOTIFY THE ENGINEER IF THE  
FIELD CONDITION DOES NOT  
MATCH THE DRAWING.

### EXISTING TRUSS PANEL PLAN

SCALE: 1/32" = 1'-0"



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### EXISTING TRUSS PANEL ELEVATION

SCALE: 1/32" = 1'-0"

### RFC SUBMITTAL

NO.	BY	DATE	REVISIONS
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DESIGNED BY  
R.Q. BIN/A. BI  
DRAWN BY  
J. ROBERTS  
DATE  
01/08/14



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TRUSS PLAN AND ELEVATION  
SR 167 PUYALLUP RIVER BRIDGE  
STEEL TRUSS REPAIR

JOB NO.  
13034J  
SHEET NO.  
**S1**



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## GENERAL NOTES

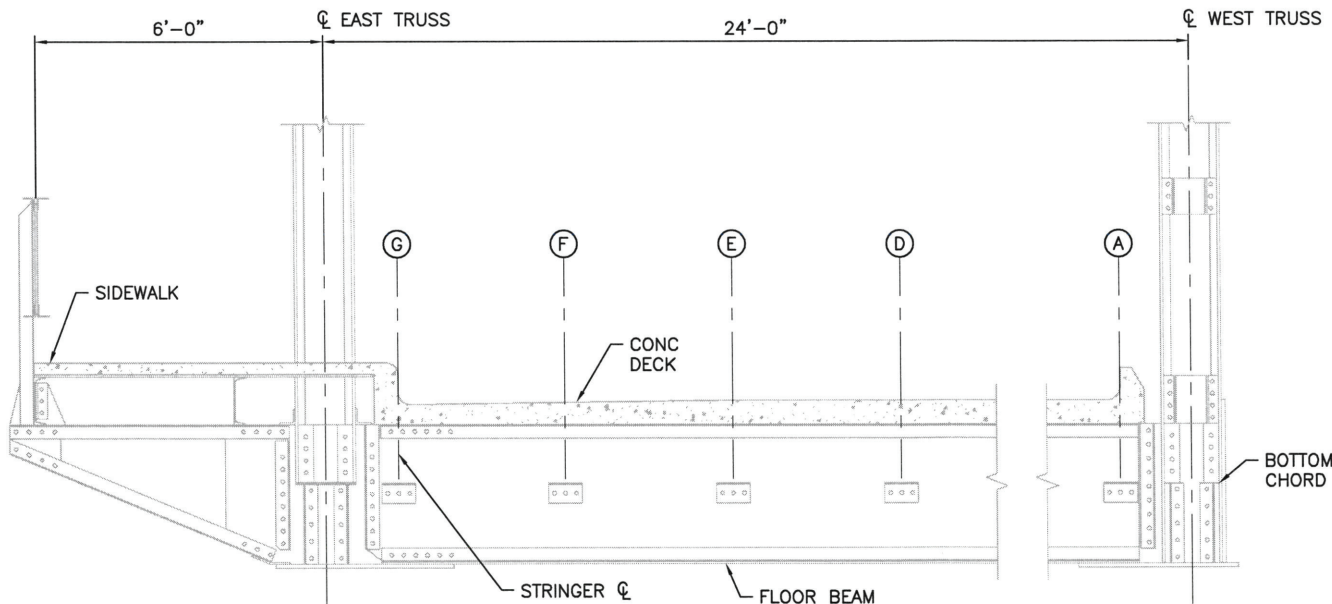
- ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION - DATED 2012 AND AMENDMENTS.
- EXISTING FEATURES AND DIMENSIONS ARE BASED ON INSPECTION REPORTS AND AS-BUILT DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS SHOWN IN THE PLANS AND AS-BUILT DRAWINGS FOR FIT-UP.
- ALL MISSING BOLT REPAIR AND BOTTOM CHORD INTERIOR ANGLE REPAIR SHALL BE PERFORMED WITH ONE TRAFFIC LANE CLOSURE. ALL GUSSET PLATE REPAIR WORK SHALL BE PERFORMED WITH FULL BRIDGE CLOSURE.
- EXISTING MEMBERS OR PLATES TO BE COVERED BY OR CONNECTED TO NEW STEEL MEMBERS OR PLATES SHALL BE CLEANED AND REMOVED OF FOREIGN MATERIAL, LOOSE PAINT AND RUST TO SOUND STEEL PRIOR TO INSTALLING NEW MEMBERS OR PLATES.
- USE OF PLASMA TORCH IS PERMITTED FOR RIVET REMOVAL, PROVIDED THE FOLLOWINGS ARE OBSERVED:
  - USE FOR LOCATIONS WHERE RIVET BUSTER CANNOT BE UTILIZED.
  - CARE SHOULD BE APPLIED TO LIMIT THE PLASMA FLAME TO ONLY THE RIVET.
  - CONNECTING MEMBERS' TEMPERATURE SHALL NOT BE RAISED ABOVE 600 DEGREES FAHRENHEIT.
  - PLASMA TORCH SHALL NOT BE USED TO ENLARGE RIVET HOLES.
- RE-USING BOLTS FOR PERMANENT CONDITION SHALL NOT BE PERMITTED. RE-USING BOLTS FOR TEMPORARY CONDITION (E.G. BETWEEN TRAFFIC CLOSURES) IS PERMITTED.
- IF CONTRACTOR FAILS TO COMPLETE INDIVIDUAL GUSSET PLATE INSTALLATIONS OR INDIVIDUAL ANGLE REPAIRS AT PANEL POINTS L0 AND L14 PRIOR TO RE-OPENING THE BRIDGE TO TRAFFIC, CONTRACTOR SHALL INSTALL TEMPORARY BOLTS TO SNUG TIGHT CONDITION FOR ALL REMOVED RIVETS PRIOR TO RE-OPENING THE BRIDGE TO TRAFFIC.

## STRUCTURAL NOTES

- ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:
  - PLATES AND GUSSET PLATES - AASHTO M270 OR ASTM A36.
  - ANGLES - AASHTO M270 OR ASTM A36.
  - H.S. BOLTS - AASHTO M164 TYPE 1 PLAIN FINISH WITH THREAD EXCLUDED FROM THE SHEAR PLANE OR APPROVED EQUAL.
- PRIOR TO STARTING ANY RIVET REMOVAL, CONTRACTOR SHALL SUBMIT REMOVAL METHODS FOR APPROVAL BY THE PROJECT ENGINEER. APPROVAL WILL REQUIRE DEMONSTRATION BY CONTRACTOR TO ENSURE NO DAMAGE WILL OCCUR TO EXISTING MEMBERS THAT REMAIN. IF IT IS NECESSARY TO CUT OPENINGS IN THE FIRST STRINGER WEB PLATE FOR HOLE DRILLING ACCESS, CONTRACTOR SHALL SUBMIT OPENING SIZE AND LOCATION, STRINGER SHORING PLANS, AND WEB PLATE REPAIR PLAN FOR APPROVAL BY THE PROJECT ENGINEER.
- HIGH STRENGTH BOLTS SHALL CONFORM TO SECTION 9-06.5(3) AND SHALL BE 7/8"Ø OR LARGER. NUTS AND WASHERS SHALL CONFORM TO SECTION 9-06.5(3). ALL HOLES FOR 7/8"Ø BOLTS SHALL BE 15/16"Ø.
- DO NOT DAMAGE EXISTING STEEL DURING RIVET REMOVAL. ALL MISSING OR SECTION LOSS RIVETS SHALL BE REPLACED WITH HIGH STRENGTH BOLTS AS NOTED IN THE PLANS.
- ALL NEW STRUCTURAL STEEL SHALL BE COATED WITH SHOP PRIMER. ALL STEEL EXPOSED AFTER INSTALLATION IS COMPLETED SHALL BE COATED WITH COLD GALVANIZING COMPOUND MANUFACTURED BY RUST-OLEUM OR APPROVED EQUAL.
- HOLES REMAINING IN STEEL MEMBER OR PLATES UPON REMOVAL OF EXISTING RIVETS SHALL BE FILLED WITH FULLY TENSION AASHTO M164 BOLTS IN ACCORDANCE WITH SECTION 6-03.3(33) UNLESS OTHERWISE NOTED.

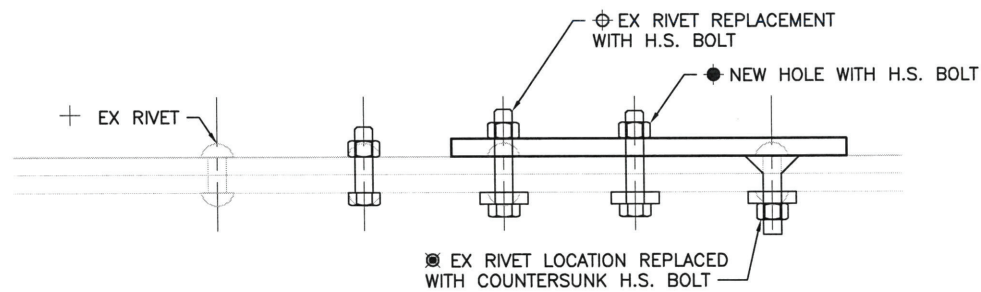
- ALL NEW BOLT HOLES IN EXISTING MEMBERS OR PLATES SHALL BE MATCH-DRILLED IN THE FIELD. HOLES IN THE NEW STEEL MEMBER OR PLATE CORRESPONDING WITH EXISTING RIVETS SHALL BE FIELD DRILLED TO MATCH EXISTING LOCATIONS. FIELD DRILLED HOLES FOR 7/8"Ø BOLTS IN NEW STEEL MEMBERS SHALL MATCH EXISTING RIVET LOCATIONS. CONTRACTOR MAY INCREASE HOLE SIZE FROM 15/16"Ø TO 1"Ø IF 15/16"Ø HOLE CANNOT BE ACHIEVED.
- CONTRACTOR SHALL ANTICIPATE MISALIGNMENT OF HOLES IN EXISTING CONNECTIONS WITH MULTIPLE PLIES OF STEEL. HOLES SHALL BE REAMED TO BOLT DIAMETER PLUS 1/16" (E.G. HOLES FOR 7/8"Ø RIVETS SHALL BE 15/16"Ø MAXIMUM) AND CONTRACTOR SHALL UPSIZE BOLTS AS NEEDED. THE PROJECT ENGINEER SHALL BE NOTIFIED OF ANY LOCATIONS WHERE THE HOLES EXCEED THE SPECIFIED HOLE SIZE LIMITS.
- BOLTS CONNECTING CHANNEL LEGS REQUIRE A BEVELED WASHER ABUTTING THE LEG OF THE CHANNEL.
- SEE SHEET S5 FOR GUSSET PLATE INSTALLATION SEQUENCE.

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TYPICAL SECTION THRU ROADWAY

SCALE: 1/4" = 1'-0"



LEGEND

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NO.	BY	DATE	REVISIONS
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STRUCTURAL NOTES AND  
TYPICAL SECTION

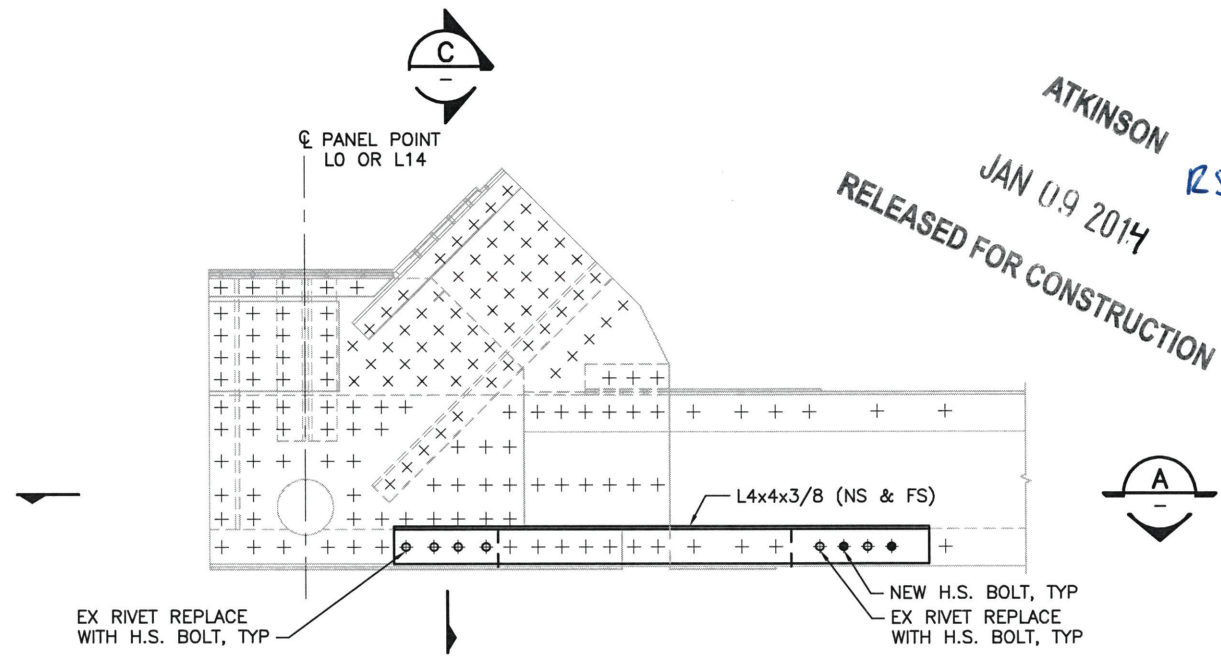
SR 167 PUYALLUP RIVER BRIDGE  
STEEL TRUSS REPAIR

JOB NO.  
13034J

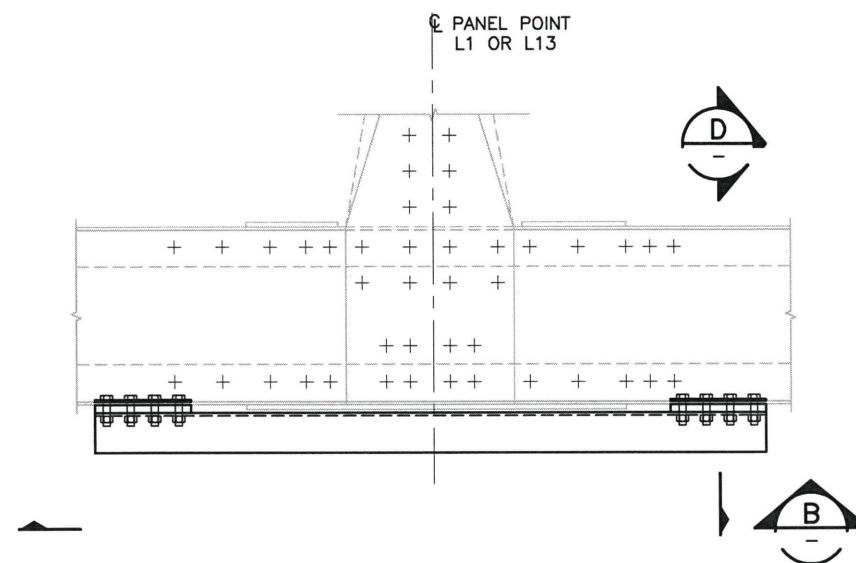
SHEET NO.  
**S2**



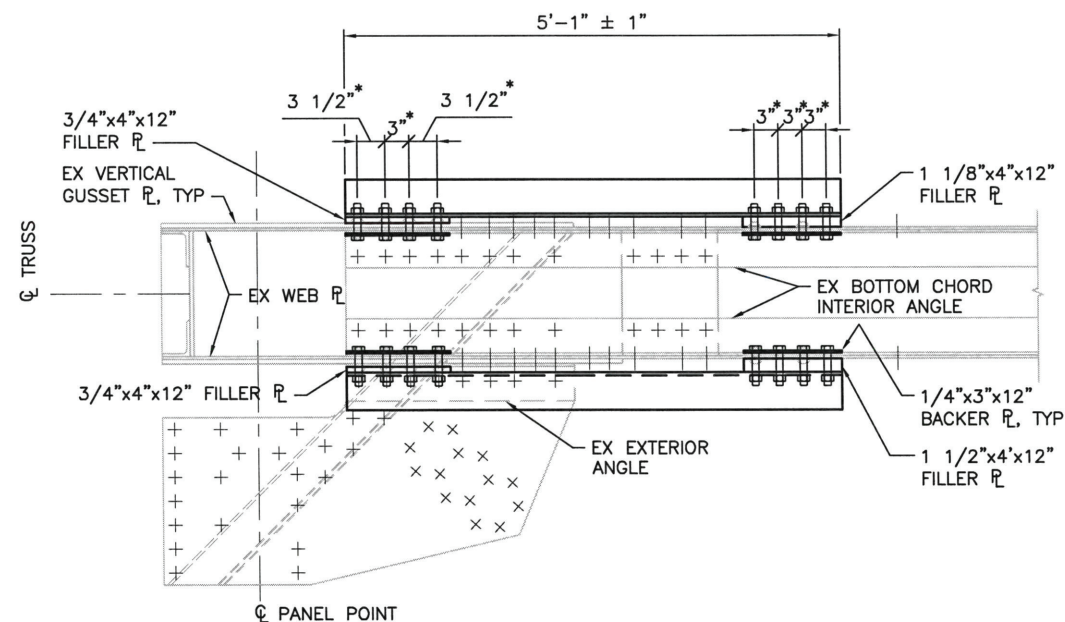
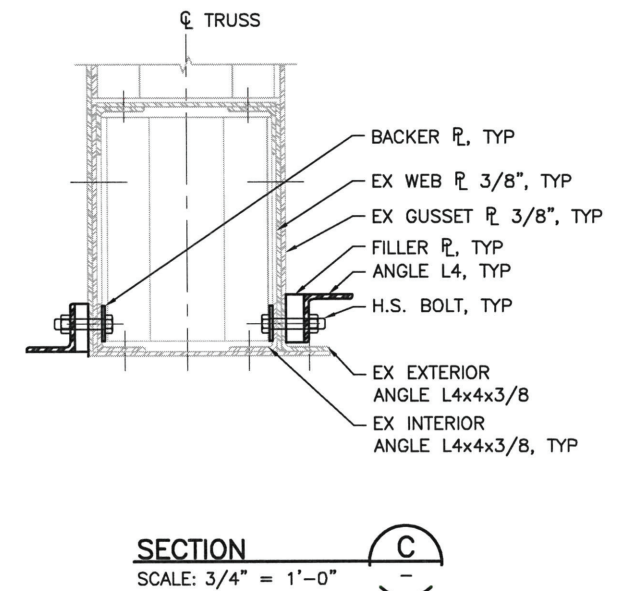
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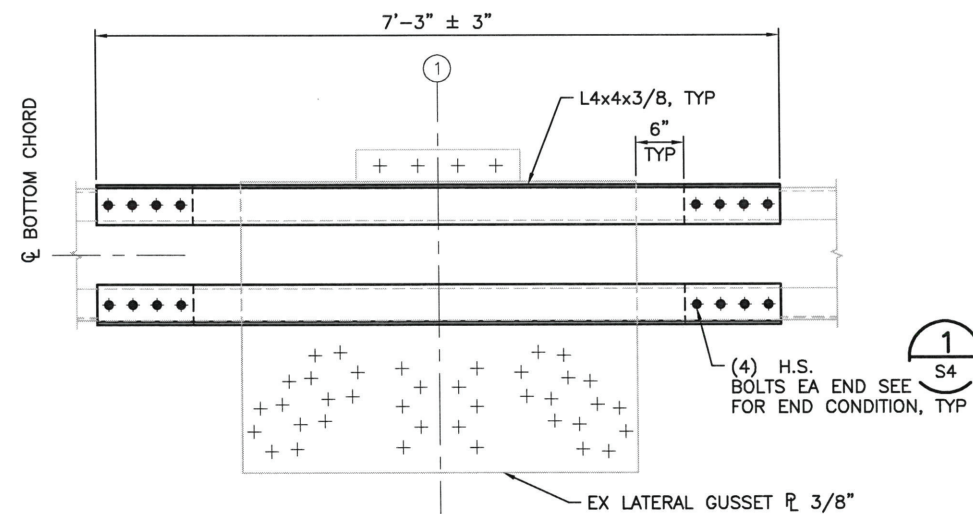
**PANEL POINT L0 ELEVATION VIEW (L14 SIM)**  
SCALE: 1/2" = 1'-0" (WEST TRUSS LOOKING WEST SHOWN)



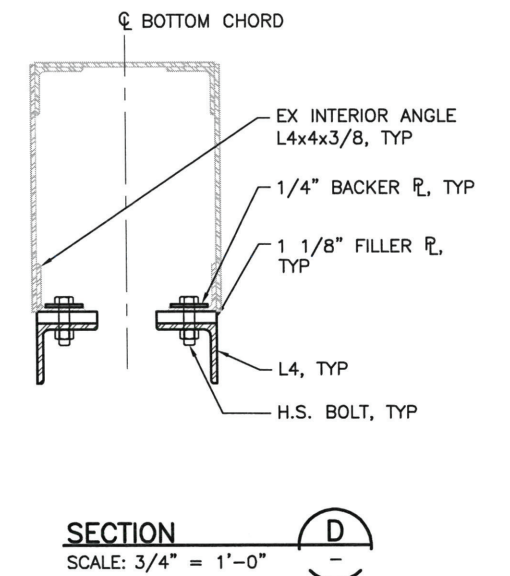
**PANEL POINT L1 ELEVATION VIEW (L13 SIM)**  
SCALE: 1/2" = 1'-0"



**PANEL POINT L0 SECTION VIEW (L14 SIM)**  
SCALE: 1/2" = 1'-0"



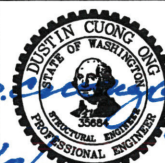
**PANEL POINT L1 SECTION VIEW (L13 SIM)**  
SCALE: 1/2" = 1'-0"



NOTE:  
EXISTING CONDITION SHOWN ON THE DRAWINGS  
SHALL BE VERIFIED IN THE FIELD. THE LENGTH  
OF THE ANGLE SHALL BE ADJUSTED TO FIT.

**RFC SUBMITTAL**

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INTERIOR ANGLE REPAIR  
PANEL POINTS L0 & L14, L1 & L13

SR 167 PUYALLUP RIVER BRIDGE  
STEEL TRUSS REPAIR

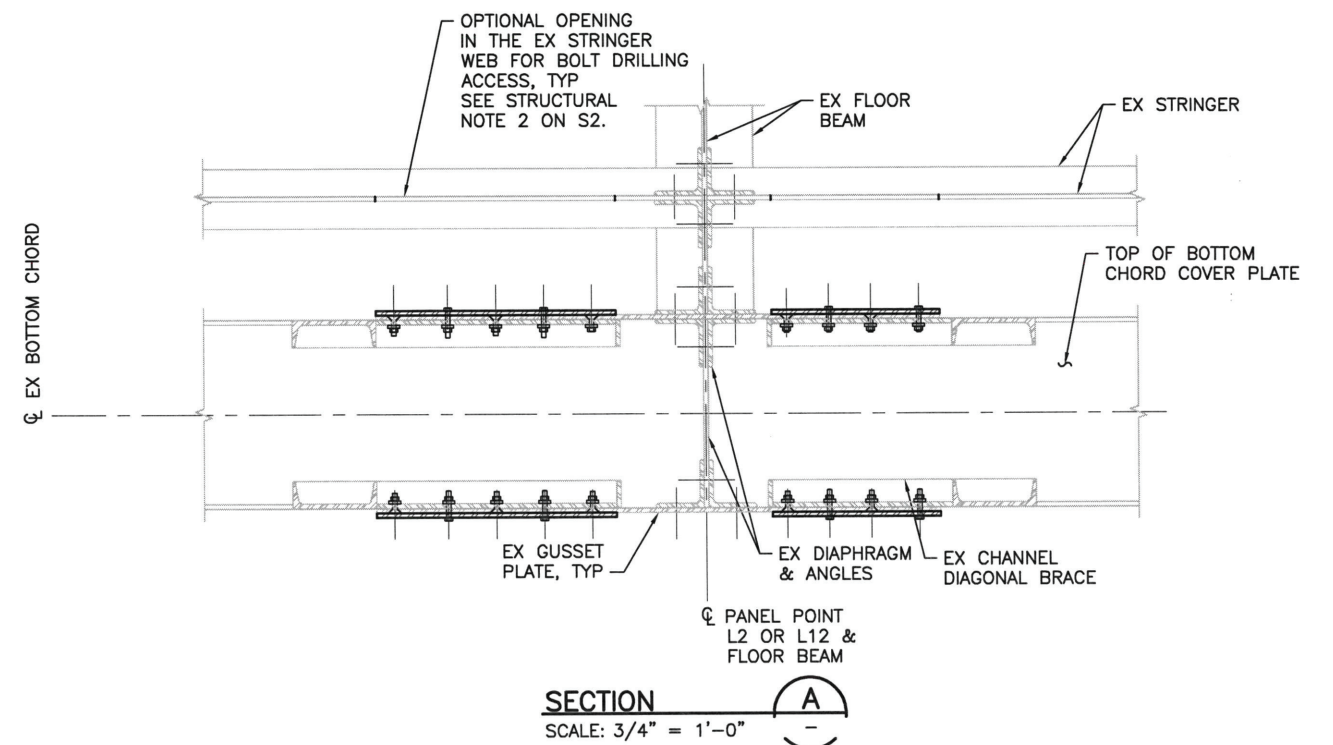
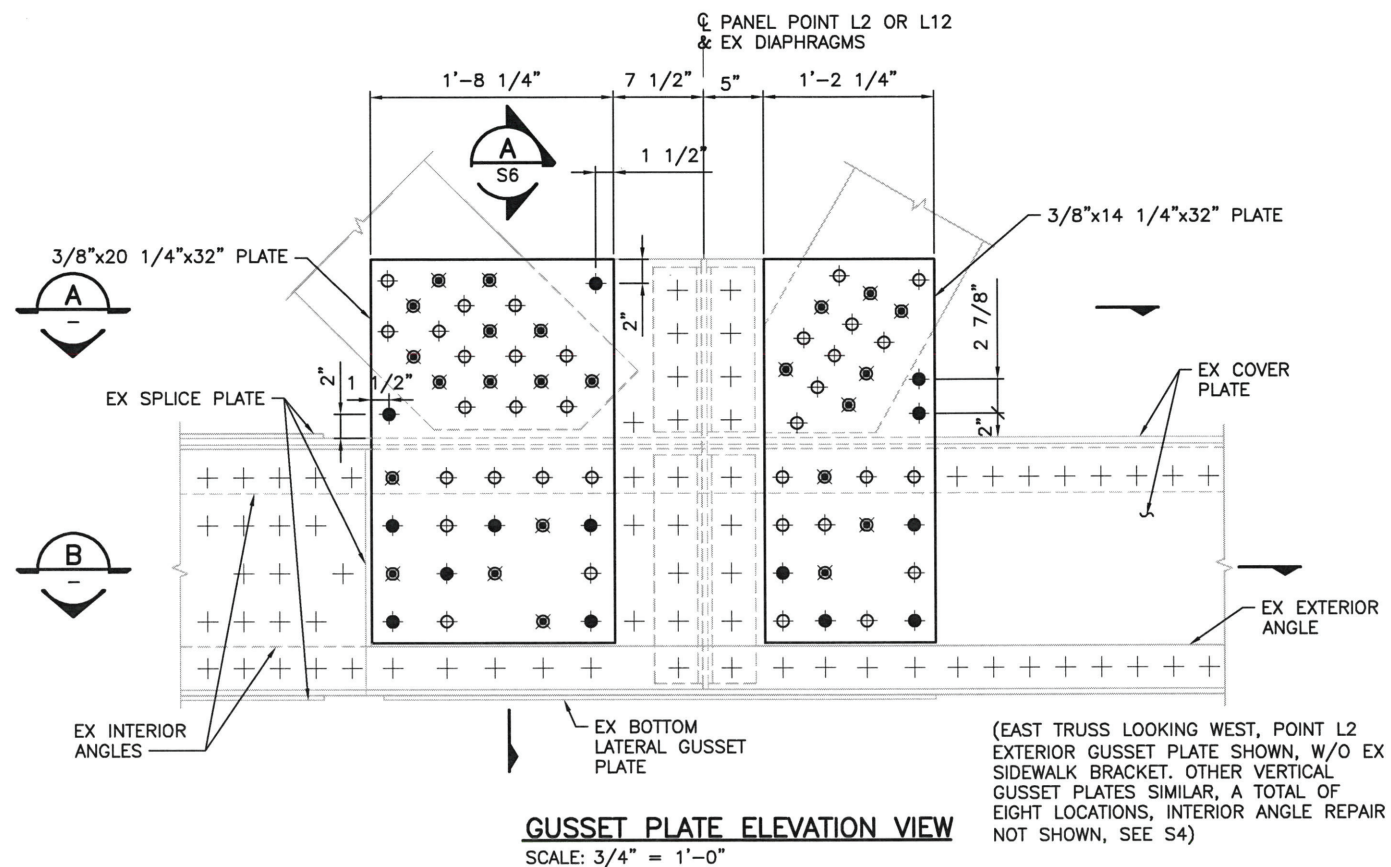
JOB NO.  
13034J

SHEET NO.  
**S3**







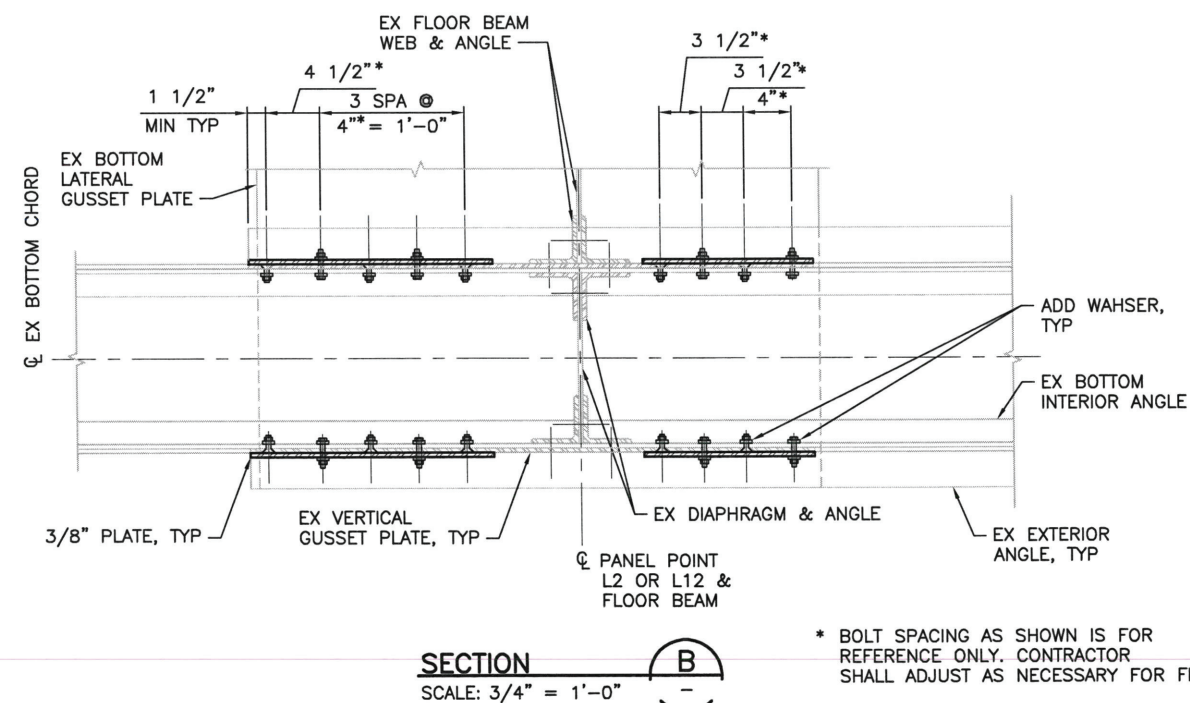


### GUSSET PLATE INSTALLATION SEQUENCE\*

CONTRACTOR SHALL WORK ON ONE GUSSET PLATE PER TRUSS AT A TIME. AT CONTRACTOR'S OPTION, CONTRACTOR MAY WORK ON ANOTHER GUSSET PLATE ON THE OPPOSITE TRUSS PROVIDED THAT IT LOCATES ON THE OPPOSITE END OF THE BRIDGE. FOR EXAMPLE, CONTRACTOR MAY WORK ON PANEL POINTS L2 (WEST) AND L12 (EAST) CONCURRENTLY.

1. CLOSE TRUSS BRIDGE TO ALL PUBLIC TRAFFIC PER TRAFFIC CONTROL PLAN.
2. INSTALL DEBRIS CONTAINMENT MEASURES PER BLACK ROCK NW'S WORK PLAN.
3. WITH ONE RIVET BEING REMOVED AT A TIME, REPLACE SPECIFIED RIVETS WITH COUNTERSUNK HIGH STRENGTH BOLTS UNTIL ALL COUNTERSUNK HIGH STRENGTH BOLTS ARE INSTALLED.
4. REMOVE REMAINING RIVETS, INSTALL PLATE AND HIGH STRENGTH BOLTS - ALL BOLTS MUST BE INSTALLED & TENSIONED PRIOR TO REOPENING TO TRAFFIC. IF PLATE INSTALLATION CANNOT BE COMPLETED IN THE SAME SHIFT AS RIVET REMOVAL, TEMPORARY BOLTS WILL BE REQUIRED. SEE GENERAL NOTE 7 ON S2.
5. DRILL ADDITIONAL NEW HOLES IN GUSSET PLATE AND INSTALL HIGH STRENGTH BOLTS WHERE THEY ARE SHOWN IN THE PLAN.
6. REPEAT STEPS 3 THROUGH 5 UNTIL ALL SPECIFIED GUSSET PLATES ARE INSTALLED.

\* THE SPECIFIED INSTALLATION SEQUENCE SHALL ALSO BE APPLIED TO ANGLE INSTALLATION AT PANEL POINTS L0 AND L14.



\* BOLT SPACING AS SHOWN IS FOR  
REFERENCE ONLY. CONTRACTOR  
SHALL ADJUST AS NECESSARY FOR FIT-UP

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## GUSSET PLATE REPAIR

SR 167 PUYALLUP RIVER BRIDGE  
STEEL TRUSS REPAIR

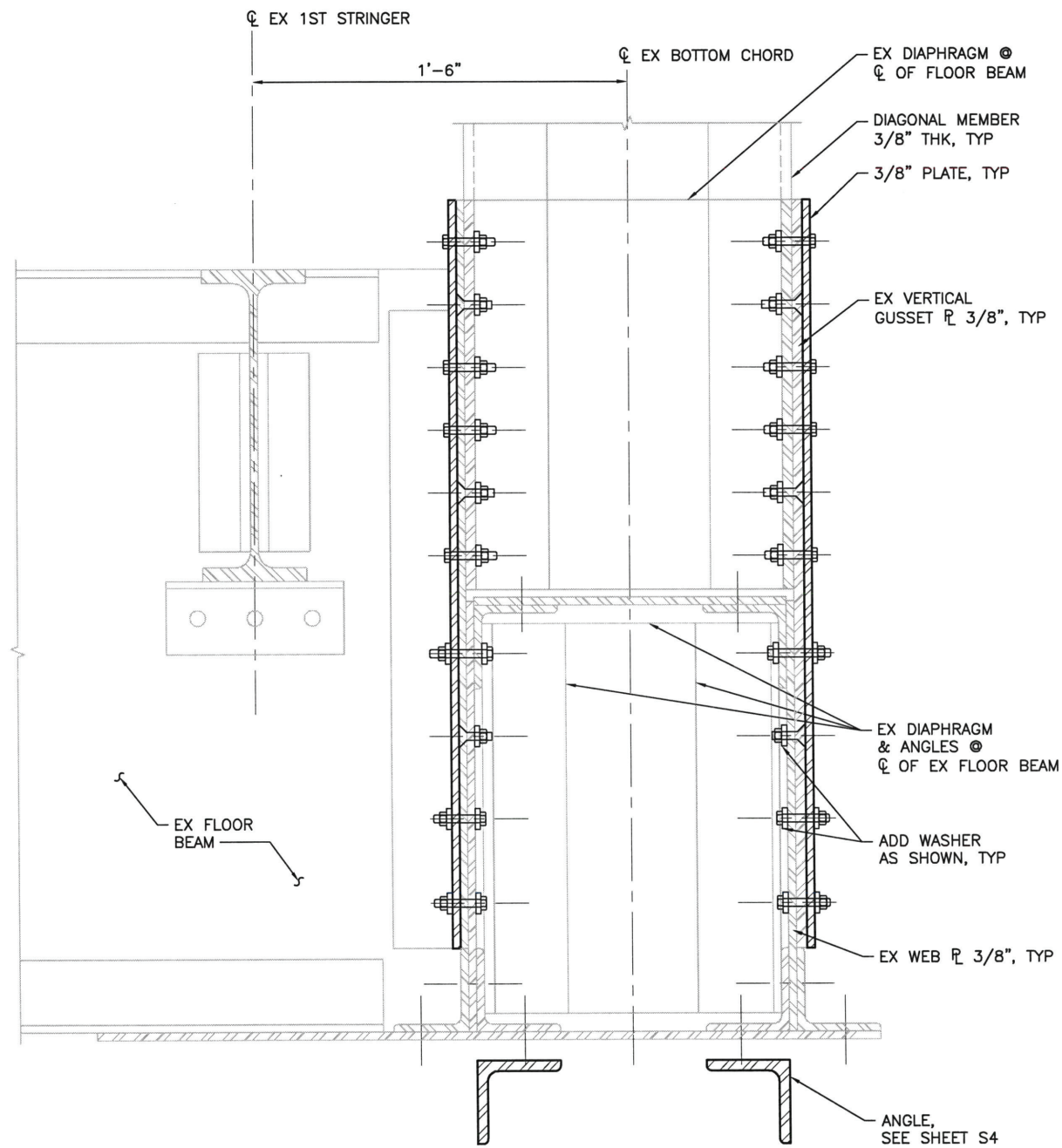
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**S5**



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SECTION A  
SCALE: 1 1/2" = 1'-0" S5

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JAN 09 2014  
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GUSSET PLATE REPAIR  
DETAILS

SR 167 PUYALLUP RIVER BRIDGE  
STEEL TRUSS REPAIR

JOB NO.  
13034J

SHEET NO.  
S6